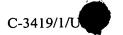


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## WHAT IS CLAIMED IS:

- 1. A process for reducing particle size of a drug, the process comprising
  - (a) dispersing about 10 g or less of the drug in a suitable volume of a liquid dispersion medium to form a suspension;
  - (b) bringing together in a vessel grinding media, magnetically activatable means for stirring and the suspension;
  - (c) magnetically activating the means for stirring to effect milling of the suspension to a weight average particle size not greater than about 1 μm; and
- 10 (d) separating the resulting milled suspension from the grinding media and the magnetically activatable means for stirring.
  - 2. A process for reducing particle size of a drug of low water solubility, the process comprising
    - (a) dispersing about 10 g or less of the drug in a suitable volume of a liquid dispersion medium to form a suspension;
    - (b) bringing together in a vessel grinding media, magnetically activatable means for stirring and the suspension;
    - (c) magnetically activating the means for stirring to effect milling of the suspension to a weight average particle size not greater than about 1  $\mu$ m; and
    - (d) separating the resulting milled suspension from the grinding media and the magnetically activatable means for stirring.
  - 3. The process of Claim A wherein about 5 g or less of the drug is dispersed in the liquid dispersion medium.
- 25 4. The process of Claim wherein about 2.5 g or less of the drug is dispersed in the liquid dispersion medium.
  - 5. The process of Claim 1 wherein the amount of liquid dispersion medium results, after the drug is dispersed therein, in a concentration of the drug in the liquid dispersion medium of about 0.1% to about 90% by weight.
- 30 6. The process of Claim 1 wherein the amount of liquid dispersion medium results, after the drug is dispersed therein, in a concentration of the drug in the liquid

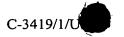


dispersion medium of about 5% to about 65% by weight.

- 7. The process of Claim, 1 wherein the amount of liquid dispersion medium results, after the drug is dispersed therein, in a concentration of the drug in the liquid dispersion medium of about 10% to about 50% by weight.
- 5 8. The process of Claim wherein the liquid dispersion medium comprises water.
  - 9. The process of Claim 1 wherein the liquid dispersion medium comprises a non-aqueous solvent.
  - 10. The process of Claim 8 wherein the liquid dispersion medium further comprises at least one surface modifying agent.
- 10 11. The process of Claim 10 wherein the at least one surface modifying agent is present in a total amount of about 0.1% to about 90% by weight based on the combined weight of the drug and the at least one surface modifying agent.
  - 12. The process of Claim 10 wherein the at least one surface modifying agent is present in a total amount of about 0.1% to about 50% by weight based on the combined weight of the drug and the at least one surface modifying agent.
  - 13. The process of Claim 10 wherein the at least one surface modifying agent is present in a total amount of about 0.1% to about 25% by weight based on the combined weight of the drug and the at least one surface modifying agent.
- 14. The process of Claim 10 wherein at least one surface modifying agent is selected 20 from the group consisting of sodium dodecyl sulfate, polyvinylpyrrolidone, hydroxypropylmethylcellulose, and hydroxypropylcellulose.
  - 15. The process of Claim 10 wherein the liquid dispersion medium further comprises at least one antifoaming agent.
- 16. The process of Claim 10 wherein the at least one antifoaming agent is present in the liquid dispersion medium in a total amount of about 0.001% to about 2.5%, by weight.
  - 17. The process of Claim 10 wherein the at least one antifoaming agent is present in the liquid dispersion medium in a total amount of about 0.003% to about 1%, by weight.



- 18. The process of Claim 15, wherein the at least one antifoaming agent comprises a silicon-based polymer.
- 19. The process of Claim 18 wherein the at least one antifoaming agent is selected from the group consisting of simethicone, Sigma® Antifoam A, and equivalents thereto.
- 20. The process of Claim 1 wherein the grinding media comprise a material selected from the group consisting of glass, lead-free glass, zirconium oxide and latex.
- 21. The process of Claim 1 wherein the grinding media comprise lead-free glass.
- 22. The process of Claim 1 wherein at least a substantial portion of said grinding media are in the shape of a sphere.
  - 23. The process of Claim 22 wherein said sphere-shaped grinding media have a weight average diameter of about 0.2 to about 5 mm.
  - 24. The process of Claim 22 wherein said sphere-shaped grinding media have a weight average diameter of about 0.33 to about 1.5 mm.
- 15 25. The process of Claim 21 wherein the sphere-shaped grinding media have a weight average diameter of about 0.5 to about 1 mm.
  - 26. The process of Claim 1 wherein the weight ratio of the suspension to all of said grinding media is about 1:10 to about 1:1.
- 27. The process of Claim 1 wherein the weight ratio of the suspension to all of said grinding media is about 2:10 to about 9:10.
  - 28. The process of Claim 1 wherein the weight ratio of the suspension to all of said grinding media is about 4:10 to about 8:10.
  - 29. The process of Claim wherein the magnetically activatable means for stirring comprises a magnetic stir bar.
- 25 30. The process of Claim V wherein the magnetically activatable means for stirring comprises a high strength magnetic stir bar.
  - 31. The process of Claim 30 wherein the high strength magnetic stir bar is comprises one to a plurality of magnets comprising neodymium.
  - 32. The process of Claim 30 wherein the high strength magnetic stir bar comprises

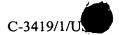


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one to a plurality of NdFeB magnets.

- 33. The process of Claim 1 wherein said step (c) is performed by placing a rotating magnet near the vessel.
- 34. The process of Claim 1 wherein said step (c) is performed until substantially all of the drug particles have been reduced to a size not greater than about 1 μm.
  - 35. The process of Claim wherein said step (c) is performed until the drug particles have been reduced to a weight average particle size of about 10 to about 1000 nm.
- 36. The process of Claim 1 wherein said step (c) is performed until the drug particles
  have been reduced to a weight average particle size of about 100 to about 1000
  nm.
  - 37. The process of Claim 1 wherein said step (c) is performed until the drug particles have been reduced to a weight average particle size of about 400 to about 900 nm.
- 15 38. The process of Claim 1 wherein said step (c) is performed until the drug particles have been reduced to a weight average particle size of about 500 to about 900 nm.
  - 39. The process of Claim 1 wherein said separation step (d) comprises filtration.
- 40. The process of Claim 1 wherein said filtration step (d) comprises centrifugal

  filtration.
  - 41. The process of Claim 1 wherein said separation step (d) comprises removal of the suspension from the milling vessel with a pipette.
  - 42. The process of Claim 1 further comprising diluting the milled suspension with at least one pharmaceutically acceptable excipient to form a pharmaceutical suspension.
  - 43. The process of Claim 1 further comprising drying the milled suspension to form a drug powder.
  - 44. The process of Claim 43 wherein the drying step is performed by evaporation, spray drying, rotovapping, lyophilization, or heating in an oven.



- 45. The process of Claim 43 further comprising mixing the drug powder together with one or more excipients to form a powder blend.
- 46. The process of Claim 43 further comprising compressing or encapsulating the powder blend to form a solid dosage form.
- 5 47. The process of Claim 43 further comprising granulating the powder blend to form a granulate prior to compressing or encapsulating.
  - 48. The process of Claim 47 wherein granulating is performed by wet granulation to form a wet granulate, and wherein the wet granulate is dried prior to compressing or encapsulating.
- 10 49. The process of Claim 43 further comprising suspending the drug powder in an inert liquid vehicle to form an imbibable liquid.
  - 50. The process of Claim 49 wherein the inert liquid vehicle is water or fruit juice.
  - 51. A pharmaceutical suspension prepared according to Claim 42.
  - 52. A powder blend prepared according to Claim 45.
- 15 53. A solid dosage form prepared according to Claim 46.
  - 54. An imbibable liquid prepared according to Claim 49.
  - 55. An imbibable liquid prepared according to Claim 50.